

ZAL'KIND, In. S.

Zal'kind, In. S. and Iremadze, N., On the addition of hydrogen to acetylene derivatives.
XXXIX. The catalytic hydrogenation of the glycole of the diacetylene series. p. 1554.

Methyl-n-toluyyl-acetylenyl carbinol was synthesized and from it diacetylene glycole-2, 7-di-n-toluyyl-3, 5-octadiene-2, 7-diole were obtained. It is established that during catalytic hydrogenation this diacetylene glycole behaves analogous to the rglycols of the acetylene series.

The Stalin Lab. of Organic Chem. of
the Tbilisi State University.
September 16, 1947

SO: Journal of General Chemistry (USSR) 18, (EO) No. 8 (1948)

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Processes and Properties Index

Addition of hydrogen to acetylene derivatives. XXXIX.
Catalytic hydrogenation of a glycol of the diacetylene series.
Yu. S. Zil'kind and I. Iremadze. *Zhur. Obshch. Khim.*
(1. Gen. Chem.) 18, 1534-9 (1948); cf. C. A. 43, 571c.
2,7-Di-*p*-tolyl-3,5-octadiene-2,7-diol (I), m. 128.9°,
was synthesized by condensation of methyl-*p*-tolylethyne-
carbinol (II) on Cu_2Cl_2 . II, m. 121-2°, was synthe-
sized by passing dry C_2H_2 through 57 g. powd. KOH in
200 ml. dry Et_2O , cooled to about -10° , and adding
dropwise, over 3 hrs., 32.5 g. *p*-MeC₆H₄COMe in 3 vols.
 Et_2O . The rate of hydrogenation of 1, 0.005 mole in 50 ml.
 $EtOH$, on colloidal Pd (characterized by complete hydro-
genation of 0.01 mole tetramethylbutynediol in 50 ml.
 $EtOH$, with 2 mg. Pd, in 32 min.) increases with the amt.
of Pd; thus, the times, in min., necessary to add 50, 80,
and 100% of the final 4 H, were, with 4 mg. Pd, 16, 36,
> 51; with 6 mg., 11, 24, 42; with 8 mg., 8, 14, 27; with
12 mg., 4, 8, 26; with 15 mg., 3, 6.5, 12 min. The
product is 2,3-ditolyl-3,5-octadiene-2,7-diol, practically
no more H atoms being added on a Pd catalyst. On Pt
black, 8 H atoms are added, resulting in diolyl-2,7-
octanediol. N. Thon

ASD-36A METALLURGICAL LITERATURE CLASSIFICATION

ZAL'KIND, YU. S.

PA 19/49T23

USSR/Chemistry - Acetylene, Derivatives	Aug 48
Chemistry - Synthesis	
<p>"The Addition of Hydrogen to Acetylene Derivatives: III, Catalytic Hydrogenation of Diacetylene Series Glycols," in: B. Zal'kind, M. Iremidze, Lab Org Chem, Tallin State U, Issue I. V. Stalin, 5 1/2 pp</p>	
<p>"Zhur Obshch Khimii" Vol XVIII (1911), No 8</p>	
<p>Synthesizes methyl-n-tolyl-acetylenyl-carbinol and from it the diacetylene glycol 2,7-di-n-tolyl-3,5-octadlin-2,7-diol. Shows that during catalytic hydrogenation this diacetylene glycol</p>	
USSR/Chemistry - Acetylene, Derivatives (Contd)	Aug 48
<p>behaves similarly to γ-glycols of acetylene series. In presence of palladium it adds four atoms of hydrogen with conversion of triple to double bonds. With platinum, the reaction proceeds smoothly until eight hydrogen atoms are added and simple bonds formed. Notes that diacetylene glycol isomerizes on heating in alcohol solution with a drop of hydrochloric acid. Research continues. Submitted 16 Sep 47.</p>	
	19/49T23

addition of hydrogen to acetylenic compounds. XL.

Catalytic hydrogenation of ethers of acetylenes
Yu. S. Zalkind and I. P. Khazova. *Zhur. Obshch. Khim. (J. Gen. Chem.)* 18, 2135-44 (1948); cf. C.A. 43, 1000 (1949).
Hydrogenation of $\text{Me}_3\text{C}(\text{OH})\text{C}\equiv\text{CCMe}_2\text{OH}$ ethers
Pd and Pt catalysts.

1304c. Hydrogenation of *tert*-butyl proceeds (10 min) (di-Me, di-Hu, and mono-Hu) with the glycol itself for (black) faster than the reaction with the di-Hu ether (II). I. the di-Me ether (I), and slower for di-Hu of the glycol. prepared according to Masanov (14.2 g. of the glycol, stirred 24 hrs. with 30 ml. MeOH and 4 ml. H₂SO₄) is 72% yield, b. 104-6°, d₄ 0.8679, n_D 1.4277 (purified by prep. 24 hrs. with 30 ml. MeOH and 4 ml. H₂SO₄) in addn. a small amt. of Me₂C=CH₂ with H₂SO₄); 44% was obtained. Hydro-

[illegible][illegible]

BuCl and 3.5 ml. H_2SO_4 (100%); the mixture is stirred at room temperature for 15 min. and then poured into 100 ml. of water. The mixture is extracted with 100 ml. of ether, dried over CaH_2 , and distilled under reduced pressure. Yield, 1.43 g. (100%); n_D^{20} 1.4337, d_4^{20} 0.8510, d_4^{25} 0.8377, n_D^{25} 1.4318.

[illegible]

ZAL'KIND, Iu. S.

Iu. S. Zal'kind and I. P. Khazova, On the joining of hydrogen to the acetylene derivatives. XL. Catalytic hydrogenation of simple esters of acetylene v-glycols. p. 2135.

Di-butyl and mono-butyl esters of tetra-methyl-butene-diole are synthesized. The catalytic hydrogenation of simple esters of tetra-methyl-butene-diole in the presence of colloid palladium and platinum black is studied. It is shown that di-methyl ester adds hydrogen faster and easier than the glycol itself while the di-butyl ester, on the contrary, hydrogenates slower.

Lab. of Organic Chemistry
The Herzen Leningrad Pedagogical Inst.
December 23, 1947

SO: J. Gen Chem. (USSR) 28, (80) No. 12, 1948

PA 67/49T32

ZAL'KIND, YU. S.

USSR/Chemistry - Hydrogenation, Catalysis - No 48
Acetylene, Derivatives

"Adding Hydrogen to an Acetylene Derivative: XL,
Catalytic Hydrogenation of Simple Esters of Ace-
tylene-Glycols," Yu. S. Zal'kind, I. P. Khazova,
Lab of Org Chem, Leningrad Pedagogical Inst imeni
Gertsen, 10 pp

"Zhur-Obsach Khim" Vol XVIII, No 12

Studied hydrogenation of ethers of tetramethylbutyn-
diol in the presence of colloidal Pd and Pt black.
Dimethyl ether added hydrogen more readily than
tetramethylbutyndiol while dibutyl ether added hy-
drogen more slowly.

67/49T32

ZAL'KIND, Yu. S.

Iu. S. Zal'kind, Dependence of the course of catalytic hydrogenation of acetylene derivatives in the presence of free hydroxyls. XLI. On factors affecting the dependence of the course of catalytic hydrogenation of acetylene. Glycols and their structures. p. 2149.

Examination of the relation to hydrogenation in the presence of palladium of acetylene γ -glycols, their ethers and acetylene alcohols leads to the conclusion that, besides the values of the radicals entering into the molecule and the space structure of the latter, the course of the reaction depends evidently on the formation of hydrogen bonds in the γ -glycols.

The Leningrad, Leningrad Tech. Inst.
December 28, 1947

SO: J. Gen. Chem. (USSR) 28, (80) No. 12, 1948

PA 67/49130

USSR/Chemistry - Hydrogenation, Catalysts Dec 48
Acetylene, Derivatives

"Dependence of the Rate of Catalytic Hydrogenation of Acetylene Derivatives on the Presence of Free Hydroxyls: XII, Factors Conditioning the Dependence of the Rate of Catalytic Hydrogenation of Acetylene Glycols on Their Structure," Yu. S. Zal'kind, Lenin-grad Technol Inst Inst Lensovet, 34 pp

"Zhur Obshch Khim" Vol XVIII, No 12

Examination of the hydrogenation in the presence of Pd of acetylenic 2-glycols, their ethers and acetylenic alcohols led to the conclusion that, in

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USSR/Chemistry - Hydrogenation, Catalysts Dec 48
(contd)

addition to the nature of the groups that are introduced into the molecule, the reaction depends, apparently, on the formation of hydrogen bonds in the glycols.

67/49130

ZAL'KIND, YU. S.

PA 47/47123

ZAL'KINO, YU. S.

Jan 49

USSR/Chemistry
Triptane

"Triptane and Its Synthesis," Prof Yu. S. Zal'kino
(deceased), L.P

"Priroda" No 1

Describes very satisfactory method of obtaining
triptane which was discovered by Prof A. P.
El'tekov of Khar'kov in 1878. Method was improved
by T. Nizovkina and V. Zharov, Moldavia physi-
cists, in 1946. With slight modifications, it is
now used in the US to obtain triptane.

47/47123

Resolution of racemic glycols of the acetylene series into optically active isomers. Yu. S. Zalkind and A. Efron. *Zhur. Obshch. Khim.* (J. Gen. Chem.) 19, 612-8 (1949). — $[PhCH(OH)C]_n$, m. 142° (9 g.), in 100 ml. dry Et_2O was warmed 8 hrs. with 1.4 g. powder K, the mixt. stirred 15 hrs. with 5.5 g. $n-C_4H_9(CO)O$, and the pptd. K salt of the acid phthalate rapidly filtered off and shaken in 150 ml. CaH_2 with 75.5 ml. 0.1 N H_2SO_4 ; evapn. of the org. layer after drying, followed by soln. in Me_2CO and 48 hrs. standing, gave colorless crystals partly sol. in Et_2O ; the sol. fraction was $PhCH(OCOC_4H_9)C_4H_9HC$; $CCl_3(OH)Ph$, m. 150-1° (from Et_2O), then from Me_2CO (13.8% yield); on slow heating $CaH_2(CO)_2O$ sublimes from the ester. The product (1 g.) warmed with 0.81 g. cinchonine in $CHCl_3$ 0.5 hr. gave a sirupy salt which on stirring with ligroin crystd., m. 82-4°. This was resolved into optical isomers $[a]_D^{20} -16.5^\circ$ and $+15^\circ$ by fractional pptn. from CCl_4 by petr. ether, and the resolved isomers of the salt converted to the isomeric phthalates by 4% HCl ; these warmed with 5% $NaHCO_3$ (5 ml./0.2 g. ester in 5 ml. $CHCl_3$) 10 min. to 70-80° gave on evapn. of the org. layer the isomeric glycols: $[a]_D^{20} -33.3^\circ$ and 30° ($CHCl_3$), $[a]_D^{20} -25^\circ$ and 21.0° (Me_2CO), m. 141-4° (from $Me_2CO-EtOH$). The Et_2O -insol. fraction (see above) was identified as $[PhCH(O_2CC_4H_9)C_4H_9C]_n$, m. 151-2° (from Me_2CO); warmed with cinchonidine in $CHCl_3$, it gave the corresponding salt, $C_4H_9O_2C_4H_9$, m. 90-2°, which was fractionally crystd. from $CHCl_3$ -petr. ether, the products treated with 4% HCl giving the optically isomeric diphtalates, m. 159-63°, $[a]_D^{20} 30^\circ$ and -40° (in $CHCl_3$). $Me_2C(OH)C:CCl(OH)Ph$, m. 76.6°.

(10 g.) treated with 2 g. K in 50 ml. Et_2O , followed by 7 g. $n-C_4H_9(CO)O$ as above, gave 30.35% $Me_2C(OH)C:CCl(O_2CC_4H_9)C_4H_9C$, m. 137-8° (from $EtOAc$), also obtained in 81% yield by warming 15.2 g. glycol, 11.5 g. $CaH_2(CO)_2O$, and 10 ml. pyridine 1.5 hrs. to 60-5° and letting stand 48 hrs., followed by shaking with 70 ml. 10% HCl and extr. with Et_2O ; warmed with cinchonine in $CHCl_3$, the ester gave the corresponding salt, m. 80-91° (from CCl_4 -petr. ether), resolved by isomeric esters, m. 142-4° (from $EtOAc$), $[a]_D^{20} -12^\circ$ and 12.5° ($CHCl_3$), which were sapond. by 4% $NaHCO_3$ - $CHCl_3$ 10 min. at 60-70° to the isomeric glycols, m. 74-7° (from $CHCl_3$), $[a]_D^{20} -10^\circ$ and 16° (Me_2CO). The racemic glycol itself was partially resolved by slow crystn. from 1-bornyl acetate (max. rotations -10° and 7° in $CHCl_3$); such resolution by optically active solvents is believed to occur through the possibility of H bond formation between solute and solvent. G. M. Kosolapoff

ZAL'KIND Yu. (Deceased)

Chemistry - Glycols, Acetylenic Apr 49
 ISSN: 0013-788X

"Cleavage of Racemic Glycols of the Acetylene Series into Optically Active Isomers," Yu. Zal'kind (deceased), A. Efros, Lab of Org Chem, Leningrad Chemicaltech Inst Invent Lensovet, 6 3/4 pp

"Zhur Obshch Khim" Vol XII, No 4

Two such glycols, specifically alphenylbutinediol (melting point 1420) and dimethylphenylbutinediol, were split into their optically active components. In addition, the optically active isomers of the mono- and diphenolic esters of alphenylbutinediol

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USSR/Chemistry - Glycols, Acetylenic Apr 49
 (Contd)

and the phenolic ester of dimethylphenylbutinediol were formed. Showed the possibility of splitting the racemic isomer of dimethylphenylbutinediol into its optically active components by means of fractional crystallization from optically active acetobenzyl ether. Suggested that the cleavage of the racemates through crystallization from active solvents may possibly be attributable to the formation of a hydrogen bond between the molecules of the racemates and the solvent. Submitted 20 Jan 48.

65/49117

Condensation of benzyl alcohol with diatomic phenols.
 Yu. S. Zol'kind and A. Kakhmushvili. *Zhur. Obshch. Khim.* (J. Gen. Chem.) 19, 717-19 (1949). *m.* (I) and *n.* $C_6H_5(OH)_2$ (II) condense with $PhCH_2OH$ in the presence of activated clay, yielding dihydroxydiphenylmethanes, with the $PhCH_2$ group entering the para position. In all the expts. were used 0.1 mole of reactants, 3 g. clay activated by H_2SO_4 , and 57 ml. solvent ($PhMe$ or C_6H_6). The expts. were conducted at reflux under a water trap; I in C_6H_6 gave 1.9 ml. H_2O in 1 hr. and the reaction mixt. after a H_2O wash gave a little 1, 1 g. unknown product, *b.* 130-90°, and 4 g. 2,4-dihydroxydiphenylmethane, *b.* 183-4°, *m.* 70-8°; this (8 g.) heated with 6 g. CaO and 21 g. KOH 2 hrs. at 240-50° gave H_2O and $(HO)C_6H_4CO_2H$ (characterized by titration; it apparently contains some 2,6-di-(HO) isomer, as $FeCl_3$ gives a violet color in dil. soln.). A similar reaction with II gave 3.5 g. 3,4-dihydroxydiphenylmethane, *b.* 170-81°, *m.* 92-4°, which on fusion as above gave H_2O and protocatechuic acid, *m.* 181-5°; the reaction with II was slower and complete water elimination required 3 hrs. reflux. G. M. K.

PA 65/49726

ZAL'KIND Yu. S. (deceased)

USSR/Chemistry - Phenols Apr 49

"Condensation of Benzyl Alcohol With Dinitrophenols," Yu. S. Zal'kind (deceased), A. Katenia-shvili, Lab of Org Chem, Tbilisi State U, Izv I. V. Stalin, 22 pp

"Zhur Obshch Khim" Vol XIX, No 4.

Resorcin and pyrocatechin can be condensed by benzyl alcohol in the presence of activated clay (ascumite) to form dioxylphenylmethanes, whereupon the benzyl residue enters into the para-position with reference to the oxygroup in the

65/49726

USSR/Chemistry - Phenols (Contd) Apr 49

benzene nucleus. Primary derivatives are 3, 4-di-oxylphenylmethane. Submitted 20 Jan 48.

65/49726

Addition of hydrogen to acetylene derivatives. XII. Incomplete
hydrogenation of an acetylenic diol: their reactions and hydrogen-
ation. Zu. S. Zalkind and L. P. Chugozhko-Chanturashvili. (J.
gen. Chem. USSR, 1950, 20, 710-726 [U.S. transl. 757-763];
cf. ibid., 1948, 18, 2140].—The ethers $\text{OR}\cdot\text{CMe}\cdot\text{C}\equiv\text{C}\cdot\text{CMe}\cdot\text{OH}$
 (R = Et and isopentyl) are prepared from the diol in KOH
 containing little H_2SO_4 . They are readily hydrogenated (more
 rapidly than the diol, but more slowly than the diethers) to the
 ethylenic and saturated compounds, and react with KOH giving
 $\text{CH}_3\text{C}\cdot\text{CMe}\cdot\text{OR}$ and with CuCl in air giving $(\text{C}\equiv\text{C}\cdot\text{CMe}\cdot\text{OR})_2$.
 Etherification of $(\text{OH}\cdot\text{CMe}\cdot\text{C}\equiv)_2$ (14 g.) and EtOH (32 g.)
 containing H_2SO_4 (3 ml.) at 75° (5 h.) gives a mixture of mono-
 and di-ether; by reaction with EtMgBr in Et_2O and regeneration
 of the ppt. with acid, there is obtained pure 5-ethoxy-2 : 5-
 dimethylhex-3-yn-2-ol, $\text{C}_{10}\text{H}_{18}\text{O}$ (I), b.p. 184° , d_4^{20} 0.8892, n_D^{20}
 1.4390. Similarly prepared is 5-isopentyloxy-2 : 5-dimethylhex-3-
 yn-2-ol, $\text{C}_{11}\text{H}_{20}\text{O}$ (II), b.p. $209-210^\circ$, d_4^{20} 0.8519, n_D^{20} 1.4420.
 Hydrogenation (Pd-starch-EtOH) of I proceeds rapidly at 20° ,

giving first 5-ethoxy-2 : 5-dimethylhex-3-en-2-ol, $\text{C}_{10}\text{H}_{18}\text{O}$, b.p.
 $181-182^\circ$, n_D^{20} 1.4413 (oxidized by KMnO_4 to CO_2 and
 $\text{OEt}\cdot\text{CMe}\cdot\text{CO}_2\text{H}$), and then hexan-2-ol, $\text{C}_6\text{H}_{14}\text{O}$, b.p. $176-176^\circ$,
 d_4^{20} 0.8622, n_D^{20} 1.4398. II similarly gives 5-isopentyloxy-2 : 5-
 dimethylhex-3-en-2-ol, $\text{C}_{11}\text{H}_{20}\text{O}$, b.p. $201-202^\circ$, d_4^{20} 0.8720,
 n_D^{20} 1.4444 (oxidized by KMnO_4 to CO_2 and iso-
 $\text{C}_4\text{H}_9\text{O}\cdot\text{CMe}\cdot\text{CO}_2\text{H}$), and then hexan-2-ol, $\text{C}_6\text{H}_{14}\text{O}$, b.p. $191-$
 193° , d_4^{20} 0.8601, n_D^{20} 1.4436. Slow heating of I (6 g.) and powdered
 KOH (5.6 g.) in a distillation flask affords 2-ethoxy-5,11,11-
 (72%), b.p. $94-95^\circ$, d_4^{20} 0.8000, n_D^{20} 1.4040, and II similarly gives
 2-isopentyloxy-2-methylbut-3-yno, $\text{C}_{10}\text{H}_{18}\text{O}$ (64.5%), d_4^{20} 0.8220,
 n_D^{20} 1.4311. I (3 g.) in boiling 50% aq. EtOH (120 ml.), containing
 CuCl (15 g.), NH_4Cl (30 g.), and HCl (3 drops), through which air
 (and later O_2) is passed for 5 hr. affords 2 : 7-diethoxy-2 : 7-
 dimethylocta-3 : 5-diyne, $\text{C}_{14}\text{H}_{22}\text{O}_2$ (57%), b.p. $91-92^\circ/6$ mm.,
 d_4^{20} 0.9001, n_D^{20} 1.4794. E. S. SMITH.

CA

Addition of hydrogen to acetylenic compounds. XLII.
Partial ethers of acetylene glycol, reactions and hydrogenation. Yu. S. Zal'kind and L. P. Chigogider-Chanturishvili (I. V. Stalin Inst., Tbilisi). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 719-23 (1950); cf. *C.A.* 43, 3782d, 3783a. Heating 14 g. 1:1 $\text{C}_2\text{C}(\text{OH})\text{Me}_2$, 32 g. EtOH , and 3 ml. H_2SO_4 , 5.5 hrs. gave the *mono-* and *di-Et* *ethers*, b. 184-6°, the mixt. with EtMgBr (from 21 g. EtBr) gave the pure *mono-Et ether*, b. 184°, d_4^{20} 0.8892, n_D^{20} 1.4390. This (1.7 g.) hydrogenated in 50 ml. EtOH with 2 mg. Pd gav. 13.3°, H addn. in 3 min., 60.2°, in 6 min., 105.2°, in 12 min., and continued reaction beyond this point; increase of the Pd proportion hastened the reaction (complete in 6 min. with 10 mg. Pd). The product, $\text{Me}_2\text{C}(\text{OEt})\text{CH}:\text{CHC}(\text{OH})\text{Me}_2$, b. 181-2°, d_4^{20} 0.8885, n_D^{20} 1.4414; complete satn. gave the *oil*, analog, b. 174-6°, d_4^{20} 0.9022, n_D^{20} 1.4998. While the addn. of H is slower than in the case of the free glycol, hydrogenation beyond

2 H proceeds more readily and when Pt black is used 6 H adds rapidly with apparent displacement of EtO and possibly OH groups. Similar reaction of the diol with *iso-1-methyl* gave crude *mixed ethers*, b. 200-10°, which with EtMgBr gave the pure *mono-iso-Am ether*, b. 230-10°, d_4^{20} 0.8510, n_D^{20} 1.4420, which adds 100% of 2 H in 30 min. with 2 mg. Pd (with 2.12-g. sample), or in 6 min. with 8 mg. Pd ; complete satn. occurs in 51 min. with 8 mg. Pd ; similarly, with Pt catalyst no rate-curve break is observed after addn. of 2 H . The product, $\text{Me}_2\text{C}(\text{OAm-iso})\text{CH}:\text{CHC}(\text{OH})\text{Me}_2$, b. 201-2°, n_D^{20} 1.4444, d_4^{20} 0.8720, while the *old*, analog, b. 191-3°, d_4^{20} 0.8601, n_D^{20} 1.4436. Heating 6 g. $\text{Me}_2\text{C}(\text{OEt})\text{C}(\text{C}(\text{OH})\text{Me}_2)_2$ with 50 g. powdered KOH gave 71.8% $\text{Me}_2\text{C}(\text{OEt})\text{C}(\text{CH}_3)_2$, b. 61-5°, d_4^{20} 0.8001, n_D^{20} 1.4040, which adds 2 H in 9 min. (0.56 g. in 50 ml. EtOH) with 2 mg. Pd . Similarly was obtained 64% of the *iso-1-methyl* analog, b. 133-4°, d_4^{20} 0.8720, n_D^{20} 1.4411. Addn. of the former (3 g.) to 15 g. CuCl , 30 g. NH_4Cl , 60 ml. H_2O , and 3 drops HCl in 60 ml. EtOH and heating 5 hrs. on a steam bath first with air percolation, then with O percolation, gave 60.9% *dimeric condensation product*, 2,7-dimethylocta-3,5-diene-2,7-diol, b. 61-2°, d_4^{20} 0.9001, n_D^{20} 1.4704, which does not react with EtMgBr .

G. M. Kosolapoff

CA

Condensation of tetramethylbutynediol with phenol.
Yu. S. Zal'kind and O. P. Moiseeva (A. I. Gertsen Pedagog. Inst., Leningrad). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 888-89 (1950).—Heating 1,1,4,4-tetramethyl-2-butyne-1,4-diol (I), with PhOH in the presence of a small amt. of sulfanilic acid leads to almost no action in $C_{12}H_{14}$ or MePh; in xylene evolution of H_2O is complete after 6 hrs. and yields 31% distillable products and 42% tar; increase of the amt. of catalyst has no effect on the yield; activated clay reduces the extent of the reaction to but 8%; and a repetition of the expt. without PhOH gives some $CH_2=CH-CMe_2-CCMe_2OH$, b. 188-90°, indicating a simple dehydration. Distn. of the volatile reaction products yields 2,2,5,5-tetramethyl-3-phenoxy-2,5-dihydrofuran, b. 130°, d₄²⁰ 0.9947, n_D²⁰ 1.52375 [which yields PhOH on boiling with H₂O-AcOH; hydrogenation over Pt black yields the corresponding tetrahydro analog, b. 132-4°, d₄²⁰ 0.9963, n_D²⁰ 1.51354; oxidation with $KMnO_4$ or CrO_3 gives $O(CMe_2CO_2H)$, m. 206°; bromination of the dihydro deriv. in cold $CHCl_3$ gives the unstable dibromide, which loses HBr and yields the mono-Hr deriv., m. 137-4°, and 2,2,5,5-tetramethyl-3-(p-hydroxyphenyl)-2,5-dihydrofuran, b. 108-10°, d₄²⁰ 0.9966, n_D²⁰ 1.52218, which on hydrogenation gives the tetrahydro analog, b. 112-13°, d₄²⁰ 0.9981, n_D²⁰ 1.51734; oxidation of the former by CrO_3 gives HCO_2H and p-HOOC CMe_2CO_2H , m. 213°; bromination gives the dibromide, m. 131-2°].
G. M. Kozolapoff

ZAL'KIND, YU. S.

Zal'kind, Yu. S. and Bal'yan, Kh. V. - "Some derivatives of phenanthrene." (p. 1209)

SC: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1980, Vol. 20, No. 7.

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Isocoral derivatives of phenanthrene. Yu. S. Zol'kind
and Kh. V. Bal'yan. *J. Gen. Chem. U.S.S.R.* 20:1233 B
(1950) (Engl. translation). See C.I. 45,1371c. R.M.S.

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Condensation of benzyl alcohol with phenols. Yu. S. Zal'kind and I. P. Kurkina (Lensovet Leningrad Technol. Inst. T. Zhur. Obshch. Khim. (J. Gen. Chem.) 20, 2158-67 (1950); cf. C.A. 44, 10734, C.A. 40, 18499. Anhyd. p -H₂NC₆H₄SO₃H, activated clay, or concd. H₂SO₄ are useful catalysts for the condensation of 2 mols. PhCH₂OH with PhOH; the products of condensation of PhCH₂OH with itself and of PhCH₂OH with PhOH are found, but the latter predominate. Heating 150 g. PhCH₂OH, 130.5 g. PhOH, and 1.4 g. p -H₂NC₆H₄SO₃H in an app. with a H₂O trap led to gradual elimination of H₂O at 141° with 21.5 ml. eliminated in 13 hrs. Steam distn. and PhOH analysis of the distillate showed that 12.1 g. PhOH had reacted; 26.8 g. PhCH₂OH was recovered, as well as 3.6 g. PhOCH₂Ph, m. 38°, b. 183-7°. Ester. of the distn. residue with H₂O gave 91.9 g. product A, b. 173-210°, 54.2 g. product B, b. 223-69°, and 19.7 g. tar. A with 10% cold KOH gave 6.8 g. α -hydroxydiphenylmethane, b. 156-8°, and 30.4 g. p -isomer, b. 173-5°, m. 83-4°; the KOH-insol. fraction consisted of 30% PhCH₂Ph and 70% (PhCH₂)₂O (on the basis of treatment with AcOH-H₂O) in a 19.0-g. fraction, b. 173-85°; a higher fraction (14.8 g., b. 180-191°) contained about 25% benzylbenzyl alc., both α - and p -isomers being detected by oxidation with HNO₃. Similar treatment of fraction B gave 0.73 g. PhOH, about 1.3 g. crude p -hydroxydiphenylmethane, 0.9 g. PhCH₂OH, 4.6 g. mixed α - and p -

benzylbenzyl alcs., and 5.1 g. mixed products, identified by degradation with 15% H₂SO₄ as consisting initially of 47.5% α - and p -PhCH₂CH₂CH₂OPh, 11.3% benzyl analogs, and 41.7% α - and p -PhCH₂CH₂OC₆H₄Ph. A reaction run with activated clay as catalyst at 120° similarly gave the following range of products: the binol. products contained 75% benzylbenzyl alc., and 14.9% (PhCH₂)₂O, while trimol. products consisted of 56.1% α - and p -PhCH₂CH₂OC₆H₄Ph, 27.6% α - and p -PhCH₂CH₂CH₂OPh, and 14.2% α - and p -PhCH₂CH₂OC₆H₄Ph. Conc'd. H₂SO₄ (1.4 g.) as a catalyst at 95-6° similarly gave the above products in the following amts.: 87.6, 1.3, and 11.1% in the binol. product fraction, and 64.6, 26.3, and 4.1% in the trimol. fraction. Heating 34.2 g. p -H₂NC₆H₄OH with 27 g. PhCH₂OH in Cat. 7 hrs. to 145-60° gave 2.8 ml. H₂O; almost all the p -nitrophenol was recovered, some sulfanilic acid and clay gave similar results; α -nitrophenol was similar, as was tribromophenol, but p -BrC₆H₄OH did react with the sulfanilic acid catalyst and after 1.5 hrs. at 140° gave very small amts. of p -BrC₆H₄OC₆H₄Ph, m. 61°, b. 161-80° (crude), and a small amt. of a trimol. condensation product, b. 180-240°, contg. about 5% Br. G. M. Kozlovskii

1951

CA

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Transformation of unsymmetric dimethyldiphenylbutynediol in acid media. I. Isomerization of the glycol under the influence of alcoholic sulfuric acid. Yu. S. Zai'kind, E. D. Venus-Danilova, and V. I. Ryabtseva (Leningrad Technol. Inst., Leningrad). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 2223-4 (1950).—Heating 10.5 g. $\text{Me}_2\text{C}(\text{OH})\text{C}(\text{OH})\text{C}(\text{OH})\text{C}(\text{OH})\text{Ph}_2$, m. 116-17°, 80 ml. 95% EtOH, and 7 ml. concd. H_2SO_4 8 hrs. with stirring at 60-70° gave 83.7% 2,2-dimethyl-5,5-diphenyltetrahydro-3-furanone, m. 68-7°; semicarbazone, m. 210° (from EtOH). This, treated with MeMgI , gave 90% 2,2,3-trimethyl-5,5-diphenyltetrahydro-3-furanol, m. 74-5° (from ligroine), which on oxidation with KMnO_4 in H_2O 20 hrs. at 85° gave benzoic acid, AcOH, Ph_2CO , and Me_2CO . If the isomerization is done with 7.6% alc. H_2SO_4 for 8 hrs. at 85° there is formed 90% 2-methyl-5,5-diphenyl-3,4-pentanedione, m. 132-3° (from EtOH); semicarbazone, m. 160° (from dil. EtOH); diazime, decomp. 135-41°. The dione with KMnO_4 gave $\text{Ph}_2\text{CH}_2\text{CO}_2\text{H}$ and $(\text{CO}_2\text{H})_2$, while CrO_3 in AcOH gave $\text{Ph}_2\text{CH}_2\text{CO}_2\text{H}$. When 12.5% alc. H_2SO_4 was used in the isomerization, 30% furanone and 70% diketone were formed, while 15.1% H_2SO_4 gave an 15:15 division of the products. Possible courses of the reaction are discussed. II. Condensation of the glycol with ethanol in the presence of sulfuric acid. E. D. Venus-Danilova and V. I. Ryabtseva. *Ibid.* 22:4-5.—Stirring 10 g. $\text{Me}_2\text{C}(\text{OH})\text{C}(\text{OH})\text{C}(\text{OH})\text{Ph}_2$, 80 ml. 23% EtOH, and 0.2 ml. concd. H_2SO_4 at room temp., then at 30-5° for 20 hrs., neutralization, and filtration, gave after standing 10 hrs. a little of the above described diketone, m. 132°, while the evapd. mother liquor, on treatment with petr. ether, gave a mechanically separable mixt. of the diketone and 78% of a new substance, m. 64-5°, identified as

2,2-dimethyl-5,5-diphenyl-3-ethoxy-2,5-dihydrofuran, which, stirred 2 days with KMnO_4 in H_2O at 70-80°, gave 2,2-dimethyl-5,5-diphenyl-2,5-pentanediol-3,4-dione, m. 183-4°, and some Me_2CO . This product (0.35 g.), refluxed 2 hrs. with 30 ml. EtOH and 7 ml. concd. H_2SO_4 , gave a red oil, which could not be crystd., but apparently was 2,2-dimethyl-5,5-diphenyltetrahydro-3,4-furandione, as treatment with $\text{o-C}_6\text{H}_4(\text{NH}_2)_2$ gave the corresponding quinoxaline, m. 161-2° (from EtOH). Among the acidic products of the above oxidation was $\text{Ph}_2\text{C}(\text{OH})\text{COCO}_2\text{H}$, an oil, characterized by its Ag salt and semicarbazone, decomp. 133°. Stirring 2.2-dimethyl-5,5-diphenyl-3-ethoxy-2,5-dihydrofuran (1 g.) 3 hrs. with 8 ml. EtOH, 0.7 ml. concd. H_2SO_4 , and 0.5 ml. H_2O at 70-5° gave 2,2-dimethyl-5,5-diphenyltetrahydro-3-furanone, identical with that described in the previous abstr. G. M. Kosolapoff

1951

CA

10

The transformation of unsymmetric dimethyldiphenyl
butynediol in acid media. I. The isomerization of the gly-
col under the influence of an alcoholic sulfuric acid. *Khimiya*
Zak'kind, B. D. Venus-Danilova, and V. I. Ryabitsera
J. *Chim. U.S.S.R.* 20, 2349-16 (1950) (Engl. trans-
lation). II. The condensation of the glycol with ethyl
alcohol in the presence of sulfuric acid. B. D. Venus-
Danilova and V. I. Ryabitsera. *Ibid.* 2317-22. See C. I.
43, 7075a/i. R. I. M.

CA

10

Transformations of unsymmetric dimethylphenylbutyne-
diol in acid medium. III. Condensation with phenol in the
presence of sulfuric acid. Yu. S. Zalkind and V. I.
Kryabova (Leningrad Technol. Inst., Leningrad; *Zh.*
Obshch. Khim. (U.S.S.R. Chem.) 21, 833 (1951); cf.
C.A. 45, 2072c.---Boiling 18.8 g. PhOH, 40 ml. C₆H₆, and
0.2 g. p-H₂NC₆H₄SO₃H in the presence of 13.3 g. Me₂C≡C-
(OH)₂ in (OH)₂C≡C(OH)Ph, gave complete elimination of H₂O in
1.5 hrs. and yielded, after steam distn., 85% 2,2-dimethyl-
3,3-diphenyl-3-phenoxy-2,3-dihydrofuran, m. 125°, and a
small amt. of the 3-(p-hydroxyphenyl) analog, m. 100°.
Heating the former with H₂ gave PhOH, while oxidation
with CrO₃ gave Me₂CO, CO₂, and HCO₂H, and KMnO₄ in
KOH gave Ph₂C=O and benzoic acid. Hydrolysis of the
KOH deriv. with eq. aq. a/c. H₂SO₄ for 4 hrs. gave 2,2-dimethyl-
3,3-diphenyl-2-furanone, m. (lit) 7°. Hence, PhOH adds to
the triple link mainly as PhC≡ and H, and only to a minor
extent as p-HOC₆H₄ and H. The small yield of the latter
leaves a possibility of an o-OH structure. G. M. K.

ZAL'KIND, YU. S.

"Catalytic hydrogenation of 2,7-dimethyloctadiyne-3,5-diol-2,7." Yu. S. Zal'kind and L. F. Chelpanova. (p. 1175)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1951, Vol 21, No 6.

Catalytic hydrogenation of 2,7-dimethyl-3,3-octadiyne-
2,7-diol. Yu. S. Zalkin and L. F. Chepurova. *J. Gen.
Chem. U.S.S.R.*, 21, 1281-84 (1951) (Engl. translation).--
See *C.A.* 46, 1960d
B. R.

ZAL'KIND Yu. S.

NIKOL'SKIY, B.P., redaktor; DOLGOV, B.N., redaktor; ZAL'KIND, Yu. S.,
[deceased] redaktor; MORACHEVSKIY, Yu.V., redaktor; POZIN, M.Ye.,
redaktor; PRITSYN, B.V., redaktor; SMIRNOV, N.I., redaktor.

[The chemist's handbook] Spravochnik khimika. Vol. 3. [Chemical equilibrium and kinetics. Solutions. Electrochemistry. Analytical and technical chemistry] Khimicheskoe ravновесie i kinetika. Rastvory. Elektrokhiimiia. Analiticheskaiia i tekhnicheskaiia khimiia. Leningrad, Gos.nauchno-tekhn. izd-vo khim. lit-ry. 1952. 1190 p. [Microfilm]
(Chemistry--Handbooks, manuals, etc.) (MLRA 7:10)

ZAL'KIND, Yu.S.; VENUS-DANILOVA, E.D.; MIKHAYLOVA, V.N.

Synthesis and properties of ethers of dissecondary -glycols. I. Preparation of methyl and ethyl ethers of diphenylbutynediol. Zhur. Obshchey Khim. 22, 1832-8 '52. (MLRA 5:11)
(CA 47 no.14:6921 '53)

1. Leningrad Tech. Inst., Leningrad.

ZAL'KIND, Yu.S.; Kharkharova, G.M.

Reaction of 2,5-diphenyl-3-hexyne-2,5-diol (symmetric dimethyl-diphenylbutynediol) with phenol in the presence of sulfanilic acid.
Zhur.Obshchay Khim. 22, 1838-48 '52. (MLRA 5:11)
(CA 47 no.15:7470 '53)

1. Lensovet Tech.Inst., Leningrad.

ZAL'KIND, Yu. S.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Organic Chemistry

Synthesis and properties of ethers of secondary
glycols. I. Preparation of methyl and ethyl ethers of 4-
phenylbutanediol. Yu. S. Zal'kind, E. M. Yerus-Danilova,
and N. N. Mikhailova. *J. Gen. Chem. (U.S.S.R.)* 21,
1873-8 (1952) (Engl. translation).—See C.A. 47, 6921c.
H. L. H.

AT
11-5-54

ZAL'KIND, Yu S.

CATALYST

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Organic Chemistry

② chem
Reaction of 2,5-diphenyl-3-hexyne-2,5-diol (symmetric dimethylidiphenylbutynediol) with phenol in the presence of sulfonic acid. Yu. S. Zal'kind and G. M. Kharkevich, J. Gen. Chem. (U.S.S.R.) 22, 1470-6 (1952) (Engl. translation).—See C.A. 47, 7470a.

9-2-54
ZP

[illegible]

[with KMnO_4 it gave Me_2CO , A-OH , and $\text{Me}_2\text{C(OH)OEt}$. CH_3COEt isolated as the A salt]. Addn. of 8 atoms of H over Pt gave some 12 (50% yield, 68-69% lit.). The probable scheme of addn. of H to these ethynyl seems to be 1,4-addn. of 2 H to form a triene, which takes up 2 H either in 1,4-order to form a sym. tetraene deriv. or in 1,2-order, yielding an allene; these on further addn. of 2 H yield either a sym. ethylene deriv. or a 2,4-diene. The former yields the vtd deriv. on addn. of 2 H atoms.

Vol. 48 No. 3
Feb. 15, 1976
Organic Chemistry

[illegible]

ZAIKIND, YU. S.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Organic Chemistry

3

② Chem

✓ Addition of hydrogen to acetylene derivatives. The catalytic hydrogenation of methyl and ethyl ethers of 2,7-dimethyl-3,5-octadiyne-2,7-diol. Yu. S. Zaikind and Z. M. Kolvanskina. *J. Gen. Chem. U.S.S.R.* 22: 2195-201 (1952) (Engl. translation).—See C.A. 48, 1262h.

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ZAL'KINE, Yu S.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Organic Chemistry

4
D Chem
The synthesis of simple ethers of 2,7-dimethyl-1,5-
octadiyne-2,7-diol. Yu. S. Zal'kind and E. N. Kolvinskina.
J. Gen. Chem. U.S.S.R. 12, 2203-6 (1952) (Engl. translation).
—See C.A. 48, 12639. H. L. E.

ZAL'KIND, YU. S., VENUS-DANILOVA, E. D. AND MIKHAYLOVA, V. N.

Synthesis and Properties of Ethers of Di-Secondary Glycols. II. Preparation of
Propyl and Isopropyl Ethers of Diphenylbutynediol Diphenylbutenediol and
Diphenylbutanediol, page 385
Sbornik statey po obshchey khimii (Collection of Papers on General Chemistry),
Vol I, Moscow-Leningrad 1953, pages 762-766

Laboratory of Organic Chemistry, Leningrad Technological Inst imeni Lenzovet

2000

1. Addition of hydrogen to acetylene compounds. **III.**
Catalytic hydrogenation of asymmetric dimethylacety-
lurene, Yu. S. Zarkov and R. V. Gritsenko, *Zh. Fiz. Khim.* 1958, 32, 1482; *Chem. Abstr.* 1958, 52, 12862.
(A. I. Gerasimov, State Univ. Inst. Leningrad.) **IV.**
Catalytic hydrogenation of 1,2-dimethyl-1,3-butadiene, *ibid.* 1958, 32, 1483; *Chem. Abstr.* 1958, 52, 12863.
Hydrogenation of 1,2-dimethyl-1,3-butadiene (I) over Pd and Pt black was identical. I exists in two isomeric forms which were separated by column chromatography on the high-melting inert polymer, mp 83-85°, is somewhat less sol. than the low-melting isomer, mp 68-70.5°. Although both isomers hydrogenate more slowly than does $\text{Me}_2\text{C}(\text{OH})\text{CH}_2$ over Pd, they hydrogenate more rapidly than the tetra-B analog or the tetra-P analog. The high-melting isomer is hydrogenated somewhat more rapidly than the low-melting isomer. The *trans* analog of I, obtained by hydrogenation, in 72-81°, the *cis* analog, in 33-6°. The ethene analog oxidized with KMnO_4 to $\text{MeCOCH}_2\text{CH}_2$ and 2-methyl-2-hydroxyoctanecarboxylic acid, in 34-5°. Treatment of the ethene analog with Br in cold CHCl_3 gave a product which evolved HBr , and which after steam distn. gave a crude product, probably containing a small amount of brominated and unbrominated olefins. Oxidation I with MeOH in the presence of H_2SO_4 gave 1,2-dimethyl-1,3-butanol, mp 42.6-52.7° and 1,4,5,6-tetraol, which on treatment with H over Pd or Pt black gave 1,2-dimethyl-1,3-butane and 2,3-dimethylbutane.

ZAL'KIND, Yu.S.; VENUS-DANILOVA, E.D.; MIKHAYLOVA, V.N.

Synthesis and properties of ethers of di-secondary δ -glycols. Zhur.ob.
khim. 23 no.7:1143-1145 J1 '53. (MLBA 6:7)

1. Laboratoriya organicheskoy khimii Leningradskogo tekhnologicheskogo
instituta imeni Lensovetu. (Glycols) (Ethers)

5

Synthesis and catalytic hydrogenation of tetrabutyl-
butynediol. Yu. S. Zol'kind and K. A. Dolgichikh.
(Acad. Sci. USSR Inst. Metals and Mining,
Tbilisi). *Sovetskaya Akad. Nauk Gruzii S.S.R.* 15, No.
3, 151-7 (1954).—Dibutyl ketone gave with acetylene and
powd. KOH in abs. ether the K-salt of $[\text{Bu}_2\text{HO}]\text{CCl}_2$
(I), from which free I was obtained in 50% yield by hy-
drolysis (cf. S. V. Bukhovec, *C.A.* 36, 6448) as white
rhombic crystals, m. 123-24°. On catalytic hydrogenation,
I added 1 mole H with Pd, and 2 moles H with Pt. Under
the same conditions (0.005 mole glycol, 30 ml. EtOH, 2 mg.
Pd and 1 atm. H) $[\text{Et}_2\text{HO}]\text{CCl}_2$ (cf. Zol'kind and Ovedtsi-
teli, *C.A.* 34, 3574) did not react with H. Ivan Pascal

(2)

1/15 228

ZAL'KIND, V. S.

7

Synthesis and investigation of properties of dibutylacetylenyl
ethynol and the influence of steric factor on its condensation
reaction. V. S. Zal'kind and K. A. Dolirshvili (Acad.
 Sci. Georgian S.S.R., Inst. Metals and Mining, Tbilisi).
 Soobshcheniya Akad. Nauk Gruzii, S.S.R., 15, No. 4, 227-31
 (1954). — $\text{Bu}_2\text{C}(\text{OH})\text{C}\equiv\text{CH}$ (I) was synthesized and its prop-
 erties studied. In the presence of colloidal Pd, I hydro-
 genates to $\text{Bu}_2\text{C}(\text{OH})\text{Et}$, proceeding without change in reac-
 tion velocity, unlike γ -acetylenic glycols, where reaction
 velocity drops sharply after the addn. of two atoms of H. I
 does not condense to the diacetylenic glycol in the presence of
 CuCl and acidified NH_4Cl . Into a mixt. of 42 g. dry KOH
 and 80 ml. abs. Et_2O was introduced a stream of pure dry
 C_4H_6 under const. agitation and cooling to -10° , while
 35.5 g. Bu_2CO in 80 ml. abs. Et_2O was added dropwise in 6
 hrs.; after this addn. C_4H_6 was passed in for another 2 hrs..
 the mixt. washed with water, extrd. with Et_2O , and dried over
 Na_2SO_4 . After distg. off the solvent and fractionating, a
 yellow liquid, b. $200-2^\circ$, was obtained in 58% yield which
 gave a triple bond test, mol. wt. 169.16, n_D^{20} 1.4458, d_4^{20}
 0.8569, M_p 52.67. Hydrogenation velocity by colloidal
 Pd on wheat starch, increased in proportion to the amt. of
 catalyst.

G. B. Gibson

MAI PM
 ①

ZAL'KINDSON, Ye. I.

PA 33/49T43

USSR/Engineering
Hydroelectric Plants
Water Tunnels

Feb 49

"Reconstruction of the Water-Conducting Tunnels
of the Dneprovskiy Sluice Imeni Lenin," E. I.
Zal'kindson, Engr, 2 pp

"Gidrotekh Stroi" No 2

Discusses certain structural improvements in
water tunnels of the Dneprovskiy sluice imeni
Lenin. Projected improvements are in sluice
gates ("Butterfly") and deflectors.

33/49T43

ZAL'KINDSON, Ye.I.; NEFEDOV, Ye.Ye.; BEREZINSKIY, A.R., professor, doktor
tekhnicheskikh nauk, redaktor; CHEBYSHEV, Ye.A. tekhnicheskii
redaktor

[Flat steel gates for hydraulic constructions] Ploskie stal'nye
zatvory gidrotekhnicheskikh sooruzhenii. Pod red. A.R.Berezinskogo.
Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1951.
44 p. 60 l. (MLRA 8:2)
(Gates, Hydraulic)

ZAL'KINDSON, Ye.I., inzhener.

Some problems of design of the mechanical equipment of gate installations
in river hydroelectric power stations. udr.stroi. 25 no.3:31-36 Ap '56.
(Hydroelectric power stations)(Gates, Hydraulic) (MLRA 9:9)

ZAL'KINDSON, Yevgeniy Il'ich; HMFEDOV, Yevgeniy Yevgen'yevich; GUROVICH,
I.Ya., red.; VORONETSKAYA, L.V., tekhn. red.; ZABRODINA, A.A.,
tekhn. red.

[Steel Talntor gates for hydraulic engineering construction]
Segmentnye stal'nye zatvory gidrotekhnicheskikh sooruzhenii.
Moskva, Gos. energ. izd-vo, 1958. 168p. ____ [Atlas of
designs] Atlas konstruktsei. 1958. 39 diagrams. (MIRA 11:9)
(Sluice gates)

ZAL'KINDSON, Ye. I.

AUTHOR: Zal'kindson, Ye. I., Engineer

98-58-3-8/22

TITLE: Planning Equipment for Inclined Ship Elevators ((Proyektirovaniye oborudovaniya naklonnykh sudopod'yemnikov)

PERIODICAL: Gidrotekhnicheskoye Stroitel'stvo, 1958, Nr 3, pp 27-31 (USSR)

ABSTRACT: The question of establishing ship elevators in connection with dams with a large difference between upper and lower water levels has again become acute. The inclined ship elevator consists of an upper lock, an elevator chamber, tracks, and a lower lock. If the difference between upper and lower waters does not exceed 3.5 to 4 m, semi-locks serve the purpose. Tracks can be either of the two parallel type (Figure 1) or of the crossed track type, leading from one upper lock to two lower locks (Figure 2). The principle element of the inclined ship elevator is the chamber in which the ship floats while being elevated. What counts most in the construction of the metal chamber is the carrying-rolling mechanism and the brake system. In order to obtain equal load distribution on the carriages (Figure 3), the mechanism includes a number of hydraulic jacks (Figure 4), while equal load on the wheels is achieved by means of a balancing system. The rolling mechanism is designed to take the vertical load and only a minimum of the horizontal

Card 1/3

Planning Equipment for Inclined Ship Elevators

98-58-3-8/22

load. For this purpose, the balancing gear is mounted between chamber and carriages with the result that the former "floats" on the carriages. The track is 11.5 m wide. Each carriage has sixteen 90 mm wheels, two wheels being mounted on one chassis. Drive is transmitted to each wheel. The unevenness of the track may not exceed ± 5 mm, which calls for a displacement of the central hydraulic support equal to 0.625 mm. The rails of the track laid on a concrete foundation have a climb of 1:20. The questions of an uninterrupted supply of power to the driving mechanisms, equality of working load on each engine, and the brake mechanism are of great importance. The normal speed of the chamber is 40 m/min with a braking time of 5 minutes. Emergency braking is set at 40 seconds, provided the emergency brakes start acting one second after being applied. The supply of energy to the driving mechanism goes over a current collector and delivers 3 phase current to the transformer stations located on the chamber. Each station consists of a driving engine and a d/c generator. On the shaft of each station is mounted a 1 ton fly-wheel with a diameter of 1 m. For 25 seconds it furnishes sufficient fly-wheel effect for the feeding of the driving engines. The

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Planning Equipment for Inclined Ship Elevators

98-58-3-8/22

time for emergency braking depends on the longitudinal stress on the moorings. For a ship with a carrying capacity of 3,300 tons, the permissible stress, according to the Mikhaylov's graph, is 4,100 kg, which would give a braking period of 55 sec. Considering the safety margin of the mooring howser, which is 5 times the normal load, it would safely hold twice the load, thereby cutting the braking period in half, i.e. 25-30 seconds. The writer is of the opinion that the electrical equipment system used for the mobile dump and transport bridges could be adopted for the electric driving mechanism of the ship elevator chamber. The mechanical equipment of the chamber consists of a front and rear, hydraulically operated gate. On the basis of available data, the construction of an inclined ship elevator chamber is feasible and can be executed in machine building plants of the USSR. The electric equipment and its controls are less complicated than those which have been in use for a long time in dump and transportation bridge cranes. The transportation of a ship in a chamber can, under the prevailing conditions, be regarded as free from danger. The inclined ship elevator is less susceptible to damage from earthquakes than any other navigational installation. There are 4 figures and 2 Soviet references.

1. Ships-Handling-Equipment
2. Inland waterways-Ship handling
3. Dams-Ship handling

Card 3/3

SMELOV, N.S., prof.; ZALKAN, P.M., prof.; BOL'SHAKOVA, G.M.; IYEVLEVA, Ye.A.;
STOYANOV, B.G.

Cortisone in the treatment of eczema and neurodermatitis. Sov.
med. 25 no.3:91-96 Mr '61. (MIRA 14:3)

1. Iz otdela dermatologii (zav. - prof. N.S.Smelov) Tsentral'nogo
nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta
(direktor -- kand.med.nauk N.M.Turanov) Ministerstva zdravookhraneniya
RSFSR.

(ECZEMA)

(CORTISONE)

(SKIN-DISEASES)

ZALKIND, A. (Leningrad); SHMEL'KIN, A. (Leningrad)

Use of motion pictures in class. Sov.torg. 34 no.5:42-43 My '61.
(MIRA 14:5)

(Leningrad—Motion pictures in education)

LAJDA, J.; ZALKOVIC, S.

Headache caused by chronic tonsillitis. Cesk. otolaryng. 14
no.3:166-168 Je '65.

1. Otolaryngologická katedra Lekárskej fakulty Univerzity
Komenského v Bratislave (veduci doc. dr. J. Lajda).

S/194/62/000/006/070/232
D295/D308

AUTHOR: Zallmann, Kurt

TITLE: A circuit for obtaining limited time pulses of varying polarity in remote-control equipment

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-2-187 g (East German Patent, cl. 21c 46/50, 21 a¹, 36, 74 b, 8/08, no. 21873, 15.9.1961)

TEXT: In induction-type selector equipment used for transmitting remote-control signals, the required time-limited pulses of variable polarity are obtained by direct-current on-and-off switching in the primary winding of the pulse transformer. Overheating of the winding can occur in this connection in the case of prolonged action of the current. Protection equipment must therefore be provided. In addition, in induction-type selectors, additional spark-quench circuits are used to reduce the wear of control contacts. The circuit suggested is free from the above defects in that in order to obtain the required pulses the charging and discharging of a capacitor

Card 1/2

A circuit for obtaining limited ...

S/194/62/000/006/070/232
D295/D308

citor is used that is connected in series with the winding of the protection transformer. One plate of the capacitor is alternately connected to the positive or negative polarity of the voltage source, while the other plate is connected to the other polarity via a protective transformer winding. [Abstractor's note: Complete translation.] ✓

Card 2/2

ZALMAN, E.
1579

Psychiat. klin. Masarykovy univ. v Brne. Leceni narkomanii podmienenou reakci zvracivou
Treatment of narcomania by conditional vomitive reaction Lek. Listy 1950, 5/11 (323-328)
The sedative effect of apomorphine (modified method of Galant) does not influence the pro-
duction of reflexes. The premedication with benzedrine was replaced by caffeine. Condi-
tional reflexes for visual and olfactory impulses of drinks are created. Apomorphine
therapy is indicated in cases of symptomatic alcoholism.

Roubicek - Prague

So:: Excerpta Medica, Section VIII, Vol. 5, No. 4, April 1952

ZALMAN E. Psychiatricka Klinika MU v Brne. O pouziti amonium-sulfatu v psychiatrii The use of ammonium sulphate in psychiatry Cas. Lek. ces. 1950, 89/4 (110-112)

If ammonium sulphate (3-10ml. intravenously in 30 seconds) be administered immediately prior to the induction of an electric convulsion, the violence of the muscular contractions is considerably reduced. Less frequently the tonic and clonic phases are also mitigated. In higher dosage, this drug may itself be employed as a convulsant, producing a shock similar to that caused by actylcholine, but without any disagreeable anxiety state, and with complete amnesia of the convulsion.

Jirout -- Prague

So: Neurology & Psychiatry Section VIII, Vol. 4, No. 1-6

ZALMAN, E.; POLACKOVA, J.; KRUPICKA, B.

Effect of psychoton on normal subjects. Lek.listy 6 no.1:19-23
1 Jan 51. (CZML 20:5)

1. Of the State Psychiatric Hospital in Brno-Cernovice (Head--
Enil Zalman, M.D.).

ZALMAN, E.

KOGAR F., ZALMAN E.

~~POUSITI NITROZILINI NARKOSY NARCOGENOM A INHALACNI NARKOSY~~
Pousiti nitrozilini narkosy narcogenom a inhalacni narkosy
narcogenom pri elektrosokove lecke. [Intravenous narcogenom
and narcogen inhalation anesthesia in electric shock therapy]
Lek. listy 6:12 15 June 51 p. 366-9.

1. Of the State Psychiatric Sanatorium in Brno-Cernovice
(Head and Director--Emil Zalman, M.D.).
CIMZ, Vol. 20, No. 10 Oct 1951

ZALMAN, E.; KRUTILEK, V.; STOZKA, R.

Fermented fruit juices in the treatment of alcoholics. Prakt. lek.,
Praha 31 no. 4:80-83 20 Feb 1951. (CML 22:3)

1. Of the Institute of Research and Treatment of Narcomania (Head
Physician and Director—Emil Zalman, M. D.) at State Psychiatric
Hospital and PAP Institute of National Health (Director -- Vr.
Sovadina, M. D.).

ZALMAN, E.; KRUPICKA, B.; POLACKOVA, J.

Cerebrospinal, venous and arterial pressure in intravenous administration
of massive doses of benzedrine. Cas.lek.ceak. 90 no.19:583-585 11 May 51.
(CJML 20:8)

1. Of the State Psychiatric Hospital in Brno-Cernovice (Director--Emil
Zalman, M.D.).

ZALMAN, Emil, MUDr.

Cooperation of the dermatovenereological and psychiatric departments at the sexological clinic at Brno. Česk. dermat. 30 no.3:184-185 June 55.

1. Z psychiatrické kliniky MU v Brně.

(HOSPITALS

sexuol. clinic at Brno, Czech., cooperation of dermatovenereol. & psychiatric departments.)

ZALMAN, Jiri, inz. arch.

A new main railway station building in Ostrava. Zel dop tech
10 no.4:114-115 '62.

ZALMAN, L.

A spring excursion along the Vah River. p. 211.
KRASY SLOVENSKA. Bratislava.
Vol. 30, no. 9, 1953.

SOURCE: Monthly List of East European Accessions (EEAL), LC, Vol. 5,
No. 3, 1956

HOBST, L., inz., dr.; LISKA, P.; ZAJMAN, Z., inz.

Assembled prestressed water-tank with 400 m³ capacity.
Vodni hosp. 13 no.2:75-78 '63.

1. Vyzkumny ustav stavebnictvi, Brno.

EXCERPTA MEDICA Sec 4 Vol 12/8 Med. Micro. Aug 59

2341. INDUCED VARIABILITY OF THE DYSENTERY BACILLI FLEXNER AND SONNE, UNDER THE INFLUENCES OF HOMOLOGOUS SERUM - Variabilitatea dirijată a bacililor dizenterici din grupul Flexner și Sonne sub acțiunea serului imun omolog - Zaiman M., Gherman D. and Elias A. Sect. de Epidemiol. și Lab. de Microbiol. I. M. F., Timisoara - STUD. CERCET. STINT. SER. STINT. MED. 1958, 4/3-4 (105-115) Tables 4

Flexner and Sonne strains cultivated in the presence of immune serum in a concentration of 1:10 in bouillon present alterations after passages at 24-hour intervals. The most important variation is that in the 24-hour fermentation of lactose, which is first seen in the Flexner strain during the 4th passage, and in the Sonne strain during the 20th passage.

1
The condensation of oxalyl chloride with substituted pyrroles. 1 C. D. Nenitzescu, Ileana Neesoin, and Mella Zalman. *Comun. acad. rep. populare Romine* 8, 658-65 (1958).
 COCl_2 (5.6 g.) in 80 cc. anhyd. ether and petr. ether slowly treated with 3.5 g. 2,4-dimethylpyrrole in the same mixt. of solvents at -30° (the reaction should take place under an inert gas, as air produced polymerization of the dimethylpyrrole) and agitation at -30° continued about 20 min. gives 15.5% 3,3',5,5'-tetramethyl-2,2'-pyrrodi-ketone, yellow, m. 250° (aq. alc.). The ether filtrate evapd. in *vacuo*, the residue dissolved in 150 cc. 10% NaOH by heating about 30 min. on a water bath, and HCl (1:1) added to acid reaction to Congo red ppts. 2,4-dimethyl-6-pyrrolyglyoxylic acid which filtered, washed with cold water, and recrystd. from C_6H_6 , m. 107° (decompn.), yield 65%. COCl_2 (16 g.) is slowly added to 19 g. 2,5-dimethyl-3-carbethoxypyrrole in 700 cc. abs. Et_2O at -10° , the mixt. refluxed 2 hrs., evapd. in *vacuo*, 300 cc. 5% NaOH added to the residue on a water bath; part of it dissolves and the rest yields 22% 2,3',5,5'-tetramethyl-4,4'-dicarbethoxy-3,3'-pyrrodi-ketone, recrystd. from aq. alc., m. $234-5^\circ$; the alk. filtrate acidified in the cold with HCl (1:1) until acid to Congo red ppts. 2,5-dimethyl-3-carbethoxypyrrole-4-carboxylic acid, m. 234° (decompn.) (aq. alc.) (yield 40%), mixed m.p. with pyrrodi-ketone 208° . The structure of the carboxylic acid was established by decarboxylation and heating above the m.p. giving 2,5-dimethyl-3-carbethoxypyrrole, m. $118-19^\circ$.
Mella Paecht-Horowitz

5

20mg
4E2C1g
4E3d

Jw
1/1

gf

TIRLEA, T.; OPRIS, F.; VASILESCU, E.; ZALMAN, M.; LEVIN, S.; GHERMAN, D.;
REICHART, S.; ELIAS, A.; MOISE, O.

Clinical, bacteriological, and epidemiological study of staphylococcal
infection cases in the Timisoara Pediatric Clinic during 1957-1959.
Microbiologia (Bucur) 6 no.1:29 Ja-F '61.

ZALMAN, M.
 RUMANIA / Organic Chemistry--Synthetic organic chemistry.

G-2

Ats Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49514

Author : Nenitescu, C. D.; Necsoicu, I.; Zalman, M.

Inst : Rumanian Academy of Sciences

Title : The Condensation of Oxalyl Chloride with Substituted Pyrroles

Orig Pub : Comun Acad RPR, 8, No 7, 659-663 (1958)

Abstract : The gradual addition of a solution of 2,4-dimethyl-pyrrole in a mixture of petroleum ether and ether (1 : 1) to a small excess of $(COCl_2)_2$ in the same solvent (at temperature of from -25 to -30° under an atmosphere of N_2) results in the formation of a precipitate of 3,5,3',5'-tetramethyl-pyrrolyl-2-diketone, yield 15.5%, mp 245° (from aqueous alc); the mother

Card 1/2

G-16

ELIAS, A.; ZAIMAN, M.; BRADIN, Z.; PELIE, A. In colaborare cu: MUNTEANU, M.

~~Medical diseases of ornithotic etiology.~~
Medical diseases of ornithotic etiology. Stud. cercet. inframicro-
biol. 15 no.1:59-64 '64.

ZALMAN, M.; GHERMAN, D.; LEVIN, S.; ELIAS, E.; MOISE, O.; POP, O.; VILCEANU, M.

Influence of scarlet fever penicillin prophylaxis on the formation of staphylococci resistant to penicillin. Microbiologia (Bucur) 6 no.1: 60 Ja-F '61.

1. Institutul de igiena si Laboratorul de microbiologie, Institutul medico-farmaceutic, Timisoara.

*

ZALMAN, M.
SURNAME, Given Names

Country: Rumania

Academic Degrees: -not given-

Affiliation: *)

Sources: Timisoara, Timisoara Medicala, Vol VI, No 1, Jan-Jun 1961, pp 62-70.

Data: "Studies on the Naso-Pharyngeal Flora in Children Between 0 and 15 Years of Age in an Isolated Community During the Spring Season."

Authors:

ZALMAN, M.

ELIAS, A.

FRASINEL, N.

CHERMAN, D.

LEVIN, S.

MOISE, O.

*)Work performed at the Epidemiology Section of the Institute of Hygiene and the Microbiology Laboratory of the Medico-Pharmaceutical Institute (Sectia de Epidemiologie a Institutului de Igiena si Laboratorul de Microbiologie I.M.F.), Timisoara.

ZALMAN, M.; LEWIN, S.; REICHRATH, S.

Modifications of biochemical, antigenic, and pathogenic properties of the celi baccillus by vegetative hybridization with the typhoid baccillus.
p. 1795. Academia Republicii Populare Romine. COMUNICARILE. Bucuresti.
Vol. 5, no. 12, Dec. 1955.

So. East European Accessions List Vol. 5, No. 9 September, 1956

RUMANIA

FRASINEL, N.; ZALMAN, M., Prof.; IOTCOVICI, S.

Timisoara, Timisoara Medicală, No. 3, July-September
1965, pp 275-277

"Modifications in the Pigmentogenesis of *Staphylococcus*
Aureus Under the Influence of Physico-Chemical Factors"

ZALMAN, Maria, V.; FRASINEL, N.; NEAGOE, N.

Phagocytosis of pathogenic staphylococci under the action of antibiotics. Arch. roum. path. exp. microbiol. 22 no.4:919-930 S-D'63.

1. Travail de l'Institut Medico-Pharmaceutique de Timisoara;
Chaire de Microbiologie.

ZALMAN, M.W.; ELIAS, A.; BRADIN, Z.L.; PELLE, A.; GHIMIS, L.; IOTCOVICI, S.;
TAVIE, A., technician

Serological studies of mumps vaccination. Stud. cercet. infra-
microbiol. 16 no.2:129-133 '65.

HOBERT, Leos, dr. inz.; LISKA, Frantisek, inz.; ZALMAN, Zbysek, inz.

Experience in the experimental building of a prefabricated prestressed water reservoir. Inz stavby 12 no.1;22-27 Ja'64.

1. Vyskumny ustav inzinierskych stavieb Bratislava, pracoviste Brno.

ZALMAN, Zbysek, inn.

Synthetic resins used in building in Austria. Inz stavby 12 no.12:
565-567 D '64.

ZALMANENOK, Z. V.

ZHARSKIY, A.M., inshener; USACHEV, A.S.; ZALMANENOK, L.V.

Measures for increasing the efficiency of chill rolls. Masl.-zhir..
prom.22 no.8:32-33 '56. (MLRA 10:1)
(Refrigeration and refrigerating machinery) (Oleomargarine)

ZALMANENOK, V. S.

U-2

USSR/General Problems of Pathology + Allergy.

Abs Jour : Ref Zhur - Biol., No 16, 1958, 75373

Author : ~~Zalmanenok, V.S.~~

Inst : -

Title : Treatment of Bronchial Asthma with Neobenzinol.

Orig Pub : Zdravookhr. Belorussii, 1957, No 2, 59-60

Abstract : The favorable influence of neobenzinol was noted on 2 patients during treatment of asthma (i.m. 0.6-0.8 ml 2 times). However, in both cases the administration of the preparation was accompanied by infiltrate formation on the site of injection, an increase of T^0 to 38^0 , headache and malaise. The period free of attacks lasted 27 days - 4 month. -- N.B. Vysotskaya.

Card 1/1

ZAIMANENOK, V.S.

Treatment of circulatory insufficiency with cardiac glycosides.
Zdrav.Belor. 5 no.8:61-62 Ag '59. (MIRA 12:10)

1. Iz Lyukhovicheskoy rayhol'nitsy Brestskoy oblasti (glavnyy
vrach S.I.Petlitskiy).
(BLOOD--CIRCULATION, DISORDERS OF) (GLYCOSIDES)

MIRONCHIK, V.Yu., zasluzhennyy vrach BSSR; ZALMANENOK, V.S.

Work of the ^{MT}medical center in industrial enterprises. Zdrav.
Belor. 6 no. 10:49 0 '60. (MIRA 13:10)

1. Glavnyy vrach 1-y gorodskoy bol'nitsy g. Grodno (for Mironchik).
 2. Zamestitel' glavnogo vracha po medchasti 1-y gorodskoy bol'nity
g. Grodno (for Zalmanenok).
- (GRODNO--LABOR AND LABORING CLASSES--MEDICAL CARE)

ZAIMANENOK, V.S.; KRUPSKAYA, A.S.

Rendu-Osler's disease. Zdrav. Belor. 6 no.8:25-27 Ag '60.
(MIRA 13:9)

1. Iz terapevticheskogo otdeleniya (zaveduyushchiy otdeleniyem
A.S. Krupskaya) 1-y gorodskoy bol'nitsy g. Grodno (glavnyy vrach -
zasluzhennyy vrach BSSR V.Yu. Mironchik).
(BLOOD VESSELS—DISEASES)

ZALMANENOK, V.

Conference on the prevention and treatment of peptic ulcer.
Zdrav.Bel. no.3:69-70 '62. (MIRA 15:5)
(PEPTIC ULCER--CONGRESSES)

ZALMANENOK, V.S.; GORIZONTOV, V.V.; SAFINA, N.N.

Medical service for workers in industrial enterprises in Grodno;
adata for a five year period. Zdrav.Bel. 8 no.7:6-9 J1 '62.

(MIRA 15:11)

1. Iz Grodnenskogo gorodskogo otdela zdravookhraneniya (zaveduyushchiy -
Ye.Ye.Leonkova).

(GRODNO—MEDICINE, INDUSTRIAL)

ZALMANENOK, V.S.

Treatment of peptic ulcer with methyldiazil. Terap.arkh. no.6:
39-41 '62. (MIRA 15:9)

1. Iz kliniki propedevniki vnutrennikh bolezney (zav. - prof.
N.I. Shvarts) Grodnenskogo meditsinskogo instituta i 1-y gorod-
skoy klinicheskoy bol'nitsy imeni Z.P. Solov'yeva (glavnyy vrach
Z.Yu. Mironchik).
(PEPTIC ULCER) (ANTISPASMODICS)

MIRONCHIK, V.Yu.; ZAIMANENOK, V.S.

Dissecting aneurysm of the aorta. Zdrav. bel. 8 no.1:47-48
Ja '62. (MIRA 15:3)

1. Iz 1 gorodskoy klinicheskoy bol'nitsy (glavnyy vrach -
zasluzhennyy vrach Belorusskoy SSR V.Yu. Mironchik) i 2
gorodskoy bol'nitsy g. Grodno (glavnyy vrach N.I. Kravchuk).
(AORTIC ANEURYSMS)

MIRONCHIK, V.Yu., zaslužebnyy vrach BSSR; ZALMANENOK, V.S.

The movement for communist labor in the hospital. Zdrav. Bel.
8 no.6:49-50 Je'62. (MIRA 16:8)

1. 1-ya gorodskaya klinicheskaya bol'nitsa imeni Z.P.Solov'yeva
v g. Grodno.
(SOCIALIST COMPETITION) (HOSPITALS—STAFF)

ZALMANENOK, V.S. ; KULAGO, G.V., kand.med.nauk

Pulseless disease. Zdrav. Bel. 9 no.3:78-80 №63 (MIRA 16:12)

1. Iz kliniki propedevtiki vnutrennikh bolezney (zav. -prof. N.I.Shvarts) Grodnenskogo meditsinskogo instituta i 1-y klinicheskoy bol'nitsy imeni Z.P.Solov'yova g.Grdono (glavnyy vrach - zasluzhennyy vrach BSSR V.Yu. Mironchik).

VEL'TMAN, R.P.; ZHUKOVSKIY, L.I.; PONOMAREV, L.Ye.; VEMYAN, A.Zh.;
 BENENSON, M.P.; ZALMANENOK, V.S.; KRUPENKO, T.I.; BABICH, Z.Ye.;
 GUTMAN, L.B.; ALIMOV, T.U.; YAKUNIN, P.N.; KRYZHANOVSKAYA, N.L.;
 AKSEL'DORF, A.L.; MUSINA, S.A.; KLEYF, A.D.; LUTSEVICH, E.V.;
 LEVINSON, O.S.; TURBINA, N.S.

Brief reports. Sov. med. 28 no.10:144-148 O '65.

(MIRA 18:11)

1. Kiyevskiy institut tuberkuleza i grudnoy khirurgii (for Vel'tman, Zhukovskiy).
2. 3-ya kafedra khirurgii TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva (for Ponomarev, Vemyan, Benenson).
3. Kafedra propedevticheskoy terapii Grodnenskogo meditsinskogo instituta i 1-ya klinicheskaya bol'nitsa imeni Solov'yeva, Grodno (for Zalmanenok, Krupenko).
4. Ukrainskiy nauchno-issledovatel'skiy institut okhrany materinstva i detstva imeni Buyko, Kiyev (for Babich, Gutman).
5. Klinika gosspital'noy khirurgii Andizhanskogo meditsinskogo instituta (for Alimov).
6. Kafedra voyenno-polevoy terapii Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova, Leningrad (for Mitropol'skiy, Latysh, Murchakova).
7. Kafedra urologii I Moskovskogo ordena Lenina meditsinskogo instituta (for Aksel'dorf).
8. 4-ya infektsionnaya klinicheskaya bol'nitsa Ufy (for Musina).
9. Chernovitskaya detskaya oblastnaya klinicheskaya bol'nitsa (for Kleyf).
10. Klinika obshchey khirurgii lechebnogo fakul'teta I Moskovskogo meditsinskogo instituta imeni Sechenova i patologoanatomicheskoye otdeleniye klinicheskoy bol'nitsy No.23 imeni Medsantrud, Moskva (for Lutsevich, Levinson).

(Cont. next card)

VEL'TMAN, R.P.; (Continued) Card 2:

11. Gematologicheskaya klinika Tsentral'nogo ordena Lenina
instituta gematologii i perelivaniya krovi, Moskva (for Turbina).

ZAL'MANOV, L.G., dots., kand. tekhn. nauk

Most efficient ratio of diameters of inlet and exhaust valves
in four-cycle engines. Izv. vys. ucheb. zav.; mashinostr. no. 2:
108-115 '58. (MIRA 11:12)

1. Altayskiy sel'skokhozyaystvennyy institut.
(Gas and oil engines--Valves)

ZALMANOVA, Minna Yefimovna; AVETISYAN, Ye., red.

[Economics of construction in questions and answers]
Ekonomika stroitel'stva v voprosakh i otvetakh. Moskva,
Politizdat, 1965. 254 p. (MIRA 18:9)

ZALMANOVA, Minna Yefimovna; AVETISYAN, Ye., red.; MUKHIN, Yu.,
~~tekh. red.~~

[Economics of construction in questions and answers] Eko-
nomika stroitel'stva v voprosakh i otvetakh. Moskva, Po-
litizdat, 1964. 207 p. (MIRA 17:3)

ZALMANOVA, V. M.

USSR/Medicine - Penicillin, Administration and Dosage
Medicine - Pneumonia, Therapy

Oct 46

"The Problem of Using Penicillin for Treating Purulent Pneumonia," B.A. Slutskaya,
V. M. Zalmanova, N. I. Bakunayeva, First therapeutic Clinic, Gen Inst for Advancement of
Doctors, Hosp imeni Botkin, 82 pp

"Klin Med" Vol LXXVI, No 10

Describes various cases. Concludes that penicillin is one of chief methods of treating
acute purulent pneumonia. Method of administration is important. Should first be in-
tratracheal, then intramuscular. Dosage for abscesses should be at least 200,000 units
a day.

PA 31/49T26

ZALMANOVICI, Basia, ing.

High pressure autoclaves designed with a stirring device
with screened electric motor. Rev. chimie Min petr 12 no.9:
560-561 5'61

ZAL'MANOVICH, M. A., TSIPER, F. P. and RACHINSKIY, F. Yu.

Contact Conversions of Piperylene and its Dimer by Action by Humbrin,
page 837, Sbornik statey po obshchey khimii (Collection of Papers on
General Chemistry), Vol II, Moscow-Leningrad, 1953, pages 1680-1686.

5 (3)

AUTHORS:

Ioffe, I. S., Zal'manovich, M. Z.

SOV/79-29-8-51/81

TITLE:

N-Substituted Amides of Salicylic Acid and Its Derivatives.
I. Arylides of 3,5-Dichloro- and 5-Nitrosalicylic Acid

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2682 - 2685
(USSR)

ABSTRACT:

Some arylides of salicylic acid are highly active disinfectants (Ref 1) (e.g. the "Anabial"). Particular attention is due to the synthesis of the parent compound of this group, the salicylanilide, by condensation of aniline with esters of the salicylic acid, e.g. with salol (Ref 8), where phenol is separated. This "salol method" is recommended as a general method of synthesizing various arylides of salicylic acid by heating salol with amines (Ref 10), in the medium of an inert solvent, e.g. trichlorobenzene. The experiments carried out by the authors, however, indicated that the solvent decreases the yield and only complicates the process. This reaction is shown to proceed quite smoothly when a mixture of salol and amine is fused together at 150-180° in an equimolar ratio, in which case at the beginning of the reaction the low-melting

Card 1/3

N-Substituted Amides of Salicylic Acid and Its
Derivatives. I. Arylides of 3,5-Dichloro- and 5-Ni-
trosalicylic Acid

SOV/79-29-8-51/81

salol acts as a solvent, and later on the resultant phenol. After termination of the reaction (1-2 hours) the phenol is removed by distillation, and the arylamide is purified from the alkaline solution by precipitation with acid and recrystallization from alcohol. In this way, yields of 80-95% were obtained in different arylides such as *N*-anisidide (Ref 8), *N*-phenetidide (Ref 9), *o*-nitroanilide and others (Refs 1,11,9). This method was also used for derivatives of salicylanilide with substituents in the salicyloyl nucleus. Different chlorine derivatives of the salicylanilide have so far been obtained by chlorination of this compound (Refs 12-14), while the degree of chlorination depends on the reaction conditions, and mixtures of different chlorinated chlorine derivatives are formed. The authors obtained easily the chlorine derivatives of salicylanilide in a pure state by fusing together the salol (and, accordingly, the chlorine salts) with aniline or chloro anilines. In this way, the 4'-chloro salicylanilide and 2',5'-dichloro salicylanilide (Ref 9) were obtained from

Card 2/3

N-Substituted Amides of Salicylic Acid and Its
Derivatives. I. Arylides of 3,5-Dichloro- and
5-Nitrosalicylic Acid

80V/79-29-8-51/81

salol, and the 3,5,4'-trichloro salicylanilide and 3,5,2',5'-
tetrachloro salicylanilide (Ref 1) from 3,5-dichloro salol.
Tables 1 and 2 present further arylides of the 3,5-dichloro
salicylic acid and 5-nitrosalicylic acid synthesized in the
same way. There are 2 tables and 16 references, 2 of which
are Soviet.

ASSOCIATION: Voenno-meditsinskaya akademiya imeni S. M. Kirova (Military
Medical Academy imeni S. M. Kirov)

SUBMITTED: July 19, 1958

Card 3/3

SOV/79-29-8-52/61

5(3)

AUTHORS: Ioffe, I. S., Zal'manovich, H. Z.

TITLE: Reaction of 2,4,5-Trichlorophenol With Formaldehyde

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2695-2689 (USSR)

ABSTRACT: The chlorine derivatives of dioxy-diphenyl-methane with hydroxyl groups in ortho-position to the central methylene group are highly active disinfectants (Ref 1). The most active among them is compound (I), known under the name "G-11" or "hexachlorophenone", but its synthesis by means of condensation of formaldehyde with 2,4,5-trichlorophenol (Ref 2) has not been described in detail in publications. More thoroughly described are the syntheses of the allied compounds (II) and (III) according to reference 3. As compound (IV) is formed as an intermediate from 4-chlorophenol, compound (V) can likewise result (with excess formaldehyde). On condensation of (IV) with excess 4-chlorophenol, (III) is formed, on condensation of (V) with 4-chlorophenol, compound (VI). In Ziegler's reaction (Ref 5) of formaldehyde with 2,4-dichlorophenol, compound (VII) is primarily formed which yields with formaldehyde compound (VIII), when treated with dilute acids, or with 2,4-dichlorophenol, compound (II) (Reaction

Card 1/2

Reaction of 2,4,5-Trichlorophenol With Formaldehyde

SOV/79-29-8-52/81

Scheme 1). An attempt of the authors to condense 2,4,5-trichlorophenol with formaldehyde, under the above-mentioned conditions, in the case of 2,4-dichlorophenol, was unsuccessful, since the 2,4,5-trichlorophenol was separated out in its original form. Further investigations of the latter showed that it exhibits a very small activity as compared with 2,4-dichlorophenol. The 2,4,5-trichlorophenol was found to react with formaldehyde only on heating in the presence of concentrated sulfuric acid. As an intermediate, 2,4,5-trichlorosaligenin (IX) is formed, which is further condensed either with excess formaldehyde under formation of compound (X), or with excess 2,4,5-trichlorophenol. In the latter case it yields, as a main product, hexachlorophene (III) in addition to other products (Reaction Scheme 2). There are 5 references, 1 of which is Soviet.

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USSR/Chemistry - Acetylene
Terpenes

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"Problem of Synthesizing Terpene Homologues, Coming from Acetylene: Action of Sulfuric Acid on Methyl-ethyl-Vinyl-Carbinol," M. Z. Zal'manovich, Lab of Org Chem, Sci Res Inst of Leningrad Ord of Lenin U, 124 pp

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Reaction of 20% H_2SO_4 at room temperature with 2-ethyl-3-penten-2-ol gave a mixture of 3-methyl-1,3-pentadiene 3,4,7, triethyl-1,6-nomaden-3-ol, 2-ethyl-2 butanol and the initial alcohol.

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Introduction of ethyl alcohol into the reaction mixture led to an increase in the yield of a fraction containing 3-methyl-2-penten-1-ol. Reaction of 50% H_2SO_4 with 2-ethyl-3-penten-2-ol gave an increased yield of a fraction containing 3,4,7, tri-methyl-2,6-nomaden-1-ol.

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1 Dimer of piperidine. F. Yu. Ruchinskii and M. Z. Zil'-berman, *Soviet Union Journal of Chemical Physics*, 1953, 29, 415-18 (1953). Heating $MeCH:CHCH:CH$ at 175-50° leads to its polymerization with formation of 75% dimer, b.p. 90-2°, d_4^{20} 0.86°, d_4^{25} 0.85-0°, d_4^{30} 0.8401. Hydrogenation of 0.5 g. dimer in EtOH over PtO_2 gave $C_{10}H_{18}$ in 2 fractions: 0.3 g., b. 197-70.3°, and 4.5 g., b. 170-175°, the latter, d_4^{20} 0.8073, n_D^{20} 1.44107, and m.p. 67°. Treatment with 85% H_2SO_4 to remove traces of unsat. compd. raised the melting point to 65.5°. When the dimer (10 g.) was passed 3 times over $Pd-C$ at 300-40° and the product was washed with 85% H_2SO_4 , there was obtained 1-methyl-3-propylbenzene, b.p. 173-5°, d_4^{20} 0.8629, n_D^{20} 1.4935, which oxidized with $KMnO_4$ in 10% $NaOH$ to isophthalic acid. Oxidation of the dimer (4.5 g.) with aq. $KMnO_4$ gave no HCO_2H , but did give $AcOH$ and α -methyl- β -carboxy-cyclohexane. The dimer treated with H_2 in EtOH gave an undistillable tetrabromide. These results indicate that the dimer is piperidine. *Chem. Abstr.* 48:10400f.

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Chemical transformations of piperylene and its dimer under the influence of gamma-rays. E. M. Radtsig, M. Z. Ivanovskii, and R. L. Tsvetkov. *Radiat. Environ. Biophys.* 2, 207-210 (1977). Cf. *Chem. Abstr.* 47, 822c. —Piperylene heated with gamma-rays at 270-5° in a N atm. is partially hydrogenated and partly hydrogenated to 2-pentene. The dimer (1-methyl-5-propyl-5-cyclohexene) under such conditions is converted into cyclohexene hydrocarbons and also into 1-methyl-5-propyl-5-cyclohexene and 1-methyl-5-propyl-5-cyclohexene in 2:1 ratio. The higher-boiling fraction contains trimeric and tetrameric forms of piperylene, whose structures are not clear. G. M. Radtsig.